PENGARUH MACAM PUPUK ORGANIK TERHADAP MORFOLOGI, KANDUNGAN NUTRIEN, DAN PRODUKSI BIOMASSA TANAMAN JAGUNG (*Zea mays*) DENGAN POLA TANAM GANDA

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh macam pupuk organik yang berbeda terhadap pertumbuhan, produksi biomassa, dan kandungan nutrien tanaman jagung (*Zea mays*) yang ditanam dengan pola tanam ganda. Penelitian ini dilakukan mulai Agustus 2021 sampai Juni 2022 selama 10 bulan, meliputi penanaman di Lahan Percobaan PT. Agromix Lestari, Grogolan, Ngemplak, Sleman dan analisis kimia kandungan nutrien di Labotratorium Hijauan Makanan Ternak dan Pastura, Fakultas Peternakan UGM, Yogyakarta. Bibit jagung Pioneer 36 (*Zea mays*) ditanam dengan perlakuan pemberian pupuk organik kotoran kambing dan sapi masing-masing pada petak berukuran 4 x 3 m dengan 3 kali ulangan menggunakan pola tanam ganda berjarak tanam 90 x 20 cm dan jarak antar petak 0,5 m. Tanaman jagung (*Zea mays*) dipanen pada umur 70 hari setelah tanam (HST). Variabel yang diamati antara lain tinggi tanaman (cm), panjang tanaman (cm), jumlah daun (helai), panjang daun (cm), lebar daun (cm), bahan kering (BK), bahan organik (BO), lemak kasar (LK), serat kasar (SK), protein kasar (PK), produksi segar (ton/ha), produksi BK (ton/ha), produksi BO (ton/ha), dan produksi PK (ton/ha). Data yang diperoleh kemudian dianalisis dengan t-test menggunakan software personal komputer *Statistical Product and Service Solution* (SPSS). Hasil penelitian menunjukkan bahwa pemberian pupuk organik kotoran kambing dan sapi berbeda tidak nyata (P>0,05) terhadap morfologi tanaman, kandungan nutrien, dan produksi biomassa tanaman jagung. Berdasarkan hasil penelitian, dapat disimpulkan bahwa pemberian pupuk organik kotoran kambing atau sapi pada tanaman jagung Pioneer 36 dengan pola tanam ganda yang dipanen pada umur 70 hari setelah tanam (HST) berpengaruh sama terhadap morfologi, kandungan nutrien, dan produksi biomassa.

Kata kunci: Hijauan jagung, Kandungan nutrien, Morfologi, Produksi biomassa, Pupuk organik kotoran kambing dan sapi

THE EFFECT OF ORGANIC MANURE TYPES ON MORPHOLOGY, NUTRIENTS CONTENT, AND BIOMASS PRODUCTION OF CORN (*Zea mays*) PLANTED WITH DOUBLE PLANTING PATTERNS

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ABSTRACT

This study aimed to determine the effect of different type of organic fertilizers on the growth, biomass production and nutrient content of corn plants (*Zea mays*) planted in double planting pattern. This study was carried out for 8 months, in the Experimental Field of PT. Agromix Lestari, Grogolan, Ngemplak, Sleman and in the Laboratory of Forage and Pasture, Faculty of Animal Husbandry UGM, Yogyakarta for chemical analysis of nutrient content. Pioneer 36 (*Zea mays*) corn seeds were planted using organic fertilizer from goats and cattle each in plots measuring 4 x 3 m with 3 repetitions using a double planting pattern with a spacing of 90 x 20 cm and a distance between plots of 0.5 m. Corn plants (*Zea mays*) are harvested at 70 days after planting (DAP). The variables observed included plant height (cm), plant length (cm), number of leaves (leaf), leaf length (cm), leaf width (cm), dry matter (DM), organic matter (OM), ether extract (EE), crude fiber (CF), crude protein (CP), fresh production (tons/ha), DM production (tons/ha), OM production (tons/ha), and CP production (tons/ha). The data obtained was then analyzed with a t-test using Statistical Product and Service Solution (SPSS) personal computer software. The results showed that the application of organic fertilizer to goats and cattle had no significant difference (P>0.05) on plant morphology, nutrients content and biomass production of corn plants. Based on the research results, it can be concluded that the application of goat organic fertilizer or cow organic fertilizer to Pioneer 36 variety corn plants with a double planting pattern harvested at the age of 70 days after planting has the same effect on morphology, nutrient content, and biomass production.

Keywords: Biomass production, Corn forage, Goats and cattle manure, Morphology, Nutrient content